

Description of Knowledge and Attitudes of Parents in Performing First Aid for Hyperthermia in Preschool-Age Children

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ABSTRACT

Hyperthermia is a health problem characterized by increased body temperature above normal due to thermoregulation failure. Improper hyperthermia treatment of children under five can result in complications such as dehydration and seizures. According to the concept of family-centered care, the family is one of the sources for the treatment of childcare. Involving the family can contribute to success in caring for sick children, not apart from knowledge and attitude in good health based on informed sources and a good environment. The study was intended to get a picture of the parent's knowledge and attitude in conducting hyperthermia first aid on preschool-age children on the coastal shore of the Situbondo county anchor. Research design uses observational/non-experimental study design with a descriptive study, and sample identification using a non-established method with an established sampling technique. The sample needed as many as 80 respondents with the inclusion and exclusion criteria. Data collection uses knowledge questionnaires and attitudes transmitted directly through *posyandu*; midwives and cadres of *posyandu*. Studies have found that of 80 respondents, most respondents were in the early adult age category (26-35), and some of those had 2 children. Most parents have a final elementary and high school education level with most of the employment status as housewives. Most of the respondents received information regarding the first treatment of hyperthermia from health officials. The level of parental knowledge is at a missing level and the parents' attitude is at a sufficient level. As a nurse, it is necessary to provide innovation in educating parents about first aid for hyperthermia in children with various health promotion media to change knowledge and attitudes, so that they can undergo better first aid behavior.

Keywords: knowledge; attitude; hyperthermia; preschoolers; first handler



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INTRODUCTION

Hyperthermia is a health problem characterized by an increase in body temperature above normal due to failure of thermoregulation. Hyperthermia is defined as a failure of thermoregulation which is the body's inability to dissipate heat or excessive heat production (Potter, Perry, Stockert, & Hall, 2015). Hyperthermia itself is not a diagnosis of disease but a symptom that often appears in children's diseases and is a sign of a health disorder, characterized by an increase in body temperature above normal (Lusia, 2015). In addition, the occurrence of hyperthermia can be caused by exposure to heat from environmental temperatures and excessive activity. Prolonged hyperthermia and not getting proper treatment immediately can cause complications, including dehydration, seizures to brain damage (El-Radhi, Carroll, & Klein, 2019).

Hyperthermia is a health problem that is prone to occur in children, especially at preschool age (Haryani & Adimayanti, 2016). This is due to the child's resistance/immunity being still low, the ratio of surface area to body mass being greater which increases heat absorption and a high metabolic rate which increases heat production per body mass. In addition, children have low thermoregulation against extreme heat, namely increased absorption/production of heat into the body which is offset by a reduced ability of the body to remove heat from the body due to underdeveloped sweat gland capacity and lower sweat levels (Antoniadis, Katsoulas, & Papanastasiou, 2020).

According to WHO, cases of fever number 18-34 million worldwide and the most vulnerable fever occurs in children with an annual mortality rate of 500-600 thousand (E. Mulyani & Lestari, 2020). In the United States, the incidence of fever in toddlers was around 65%-75% in 2012 (Aulia, 2019). In 2012, the incidence of fever in children in

Indonesia was 90,245 (Kementerian Kesehatan RI, 2014). In the province of East Java, the incidence of fever cases in Puskesmas is 4000 cases, and in some hospitals, 1000 cases, and the mortality rate is 0.8% (Dewi, 2016). Based on data from the Coastal Health Service in the province of West Sumatra, in 2016, there were 50,684 cases or 2.8% of cases of children under five and children with hyperthermia or fever recorded (Dinkes Sumbar, 2016 dalam Astri, 2020).

The effects of hyperthermia in children that appear at the beginning with a temperature of 39-40°C are children who have no appetite, tachycardia, skin that looks red, dehydrated, lethargic, and irritable. Then when the hyperthermia becomes more severe, the child will experience a very high fever with a temperature of 41°C, and complications such as seizures, hypoxia, delirium to coma, and brain damage can occur which can cause death with the severity of the underlying disease rather than the high-temperature (El-Radhi et al., 2019). In the Situbondo district, febrile seizures are one of the causes of the increasing infant mortality rate from 2015-2016 which is 20.19% (Dinas Kesehatan, 2018). A study conducted by Mahmud (2020), shows that the impact that arises when hyperthermia in children is not given the right first treatment will cause the child's body to experience a lack of fluids (dehydration) and can cause seizures in children due to a sudden increase in body temperature > 40°C.

Empowering and involving families in childcare can support the success of childcare. Parenting that is done by parents lovingly and maintaining harmony when accompanying children and establishing intense communication will make children feel safe and comfortable (Nuriyah, Sulistyorini, & Juliningrum, 2021). This will make the child comfortable and happy, which will help the child's immune rise and accelerate the child's condition to improve. According to the concept of Family-Centered Care, family or parents are one source of handling nursing problems and play an important role when a child is a sick (Yuliaslati & Arnis, 2016). The role of parents in providing care to sick children cannot be separated from knowledge and attitudes toward health. Good parental knowledge is based on good sources of information and environment so that it can influence parents in determining positive attitudes. Then be able to make the right decisions in providing good first aid to children, how parents determine actions when the child is hyperthermic and lowers the child's body temperature, and when to take it to health workers (Aulia, 2019).

Based on previous research, according to Haryani's research in 2016, 19 of 30 mothers had sufficient knowledge. However, there is still inaccurate knowledge such as using cold compresses and not being allowed to take a bath. According to research conducted by Taribuka (2021), it was stated that the level of knowledge of mothers was 59.1% who had sufficient knowledge of 44 mothers were respondents. Lack of information and knowledge makes the actions of parents incorrect, one of which happens a lot in the community, such as children with high body temperatures being covered with thick blankets, not allowed to take a bath and use cold compresses, and the use of antipyretic drugs that are not following the frequency of use and dosage (Haryani & Adimayanti, 2016; Taribuka et al., 2021). From the explanation of the problems above, the researcher wants to examine "The description of the knowledge and attitudes of parents in performing first aid for hyperthermia in preschool-aged children in the coastal area of Anchors, Situbondo Regency."

METHOD

This study uses an observational/non-experimental research design with a descriptive study essence. The population in this study were parents who had preschool-aged children (3-5 years) in the coastal area of Anchor, with a total of 100 parents registered at the *posyandu*. The sample of this study was parents of preschool children (3-5 years) who had treated children with hyperthermia. Determination of the sample using a non-probability sampling method with a purposive sampling technique. Respondents were selected according to the inclusion and exclusion criteria and calculated by Slovin's formula of 80 respondents. This research was conducted in the coastal area of Jangkar, Jangkar Village, Jangkar District, and Situbondo Regency in March 2022. The data collection tool used was a knowledge and attitude questionnaire in the first hyperthermia treatment modified from a previous research (Widyastuti, 2016). The questionnaires were distributed directly through the *posyandu* with the assistance of midwives and *posyandu* cadres. This study uses a questionnaire consisting of 31 questions with validity test results > 0.279 and reliability test results > 0.660 and has been tested for ethical feasibility with the number 026/UN25.1.14/KEPK/2022. Analysis of the data used in this study is Univariate analysis. Data analysis of respondents' characteristics, knowledge, and attitudes is done by looking at and describing the presentation of the frequency distribution table data consisting of frequency and percentage.

RESULT

The research results on the characteristics of respondents, knowledge, and attitudes of parents were analyzed using univariate analysis which is presented in the form of a frequency distribution table using a percentage measure.

Respondents' Characteristics

Respondents used in this study were parents with preschool children aged 3-5 years who live in the coastal area of Anchor, amounting to 80 respondents. The characteristics of the respondents obtained consist of age, number of children, occupation, last education, and sources of health information obtained by respondents.

Table 1. Distribution of Respondent Characteristics based on Age, Number of Children, Occupation, Last Education, and Sources of Health Information Obtained by Respondents (n=80)

Characteristics	Frequency	Percentage
Age		
Late Adolescent (17-25)	20	25
Early Adults (26-35)	43	53.8
Late Adulthood (36-45)	17	21.2
Number of Children		
1	27	33.8
2	43	53.8
3	8	10.0
>3	2	2.5
Last Education		
Elementary school	26	32.5
Middle school	21	26.2
High school	26	32.5
College	7	8.8
Profession		
Government employees	2	2.5
Self-employed	8	10.0
Fisherman	1	1.3
Trader	8	10.0
Farmer	7	8.8
Housewife	52	65
Others	2	2.5
Resources		
TV	4	5.0
Friend	6	7.5
Family	21	26.3
Health workers	36	45.0
Internet	13	16.3

Based on table 1 shows that the age of the respondents, namely parents who have children aged 3-5 years aged 17-25 years or late teens amounted to 20 people (25%), 26-35 years or early adults as many as 43 people (53.8%), and 36-45 years old or late adults amounted to 17 people (21.2%). Most of the respondents have 2 children, namely 43 people (53.8%). Based on other characteristics, it also explains that most parents have the same education level as elementary school and high school with the same number of 26 people (32.5%), and the least respondents are at the last college education level with a total of 7 people (8.8%). Most of the professions of all respondents are housewives with a total of 52 (65%). Most of the respondents received information about the first treatment of hyperthermia in children from health workers, amounting to 36 respondents (45%).

Knowledge of Parents in Performing Hyperthermia First Aid in Preschool-Age Children

Table 2. The Percentage Value of Parental Knowledge in Performing Hyperthermia First Aid in Preschool-Age Children (n=80)

Level of Knowledge	Frequency	Percentage
Good	24	30.00
Not Enough	20	25.00
Enough	36	45.00
Total	80	100.00

Based on table 2, most respondents are at the level of enough knowledge, with a percentage of 45%, amounting to 36; the least level of knowledge is not enough, with a percentage of 25% which amounts to 20 people. Then the frequency distribution of indicators question is presented in the following table.

Table 3. Frequency Distribution of Respondents Related to Knowledge in The First Treatment of Hyperthermia in Children (n=80)

Indicator of Knowledge	Respondents' Answer	
	Correct f (%)	Wrong f (%)
Hyperthermia Temperature	37 (46.2%)	43 (53.8%)
Knowledge of Hyperthermia	58 (72.5%)	22 (27.5%)
Hyperthermia Temperature	40 (50%)	40 (50%)
Causes of Hyperthermia	39 (48.8%)	41 (51.2%)
	33 (41.2%)	47 (58.8%)
Characteristics of Hyperthermia	17 (21.2%)	63 (78.8%)
	38 (47.5%)	42 (52.5%)
How to determine Hyperthermia	60 (75%)	20 (25%)
	61 (76.2%)	19 (23.8%)
Hyperthermia-lowering drugs	61 (76.2%)	19 (23.8%)
	63 (78.8%)	17 (21.2%)
Non-pharmacological efforts to reduce Hyperthermia	40 (50%)	40 (50%)
	24 (30%)	56 (70%)
	49 (61.2%)	31 (38.8%)
	54 (67.5%)	26 (32.5%)

Based on the data in table 3 above explains the results of the answers to each question item per indicator. On the indicator of understanding knowledge of hyperthermia, the results of the answers that respondents have filled in are 58 (72.5%) respondents answered correctly and knew that hyperthermia increased in high temperature quickly and occurred suddenly. On the temperature indicator, 37 (46.2%) respondents know that a child's normal body temperature is 36-37 °C, and 40 (50%) respondents know that a body temperature > 41 °C is said to be an emergency. As many as 41 (51.2%) respondents did not know that there are several causes of hyperthermia, namely exposure to high environmental temperatures, excessive activity, effects of using drugs that are not in appropriate doses, or there are contraindications and due to infection with other diseases. Forty-seven (58.8%) respondents did not know that the most common cause of hyperthermia in children was exposure to high environmental temperatures and other diseases or infections.

In question number 6, no more than a quarter (21.2%) of respondents answered correctly that one type of hyperthermia, namely Heat Stroke, is where the body temperature increases rapidly and suddenly >41 °C. Question number 7, as many as 63 (78.8%) respondents answered correctly by saying the accompanying symptoms of hyperthermia were, fast breathing and heart rate, weakness, paleness, dry mouth, and excessive sweating. Dehydration is another sign that appears when a child's body temperature is >41 °C. This statement found that 60 (75%) respondents answered correctly. As many as 61 (76.2%) respondents answered correctly that accurate and safe body temperature measurements in children use a thermometer. In question number 10, more than half of the respondents said it was true that all fever-reducing drugs have side effects. Meanwhile, in the statement of dose limit for daily use of fever-reducing drugs, 63 (78.8%) respondents answered correctly.

On indicators regarding non-pharmacological efforts when providing first aid to children with hyperthermia, as many as half of the respondents answered correctly, namely giving warm compresses, resting the child, providing good

airflow, and drinking lots. While no more than a third (30%) of respondents answered correctly, the way to provide good airflow to help reduce body heat is to change to thin clothes, move to a cool place, and use a fan to cool the room temperature. As many as 49 (61.2%) respondents answered correctly that giving additional fluids or drinking to children with hyperthermia is little by little but often. Then more than two-thirds (67.5%) of respondents answered correctly about using warm water, while 26 (32.5%) answered incorrectly about using cold water and ice cubes.

Parents' Attitudes in Performing Hyperthermia First Aid in Preschool-Age Children

Table 4. The Percentage Value of Parents' Attitudes in Performing First Aid for Hyperthermia in Preschool-Aged Children (n=80)

Level of Attitude	Frequency	Percentage
Good	36	45.0
Not Enough	44	55.0
Total	80	100.00

Based on the table above says that most respondents are at the level of sufficient attitude, with a percentage of 55%, amounting to 44. Then the frequency distribution per indicator or question item is presented in the following table.

Table 5. The Frequency Distribution of Respondents Related to Attitudes in The First Treatment of Hyperthermia in Children

Indicator of Attitude	Respondents' Answer			
	Strongly Disagree f (%)	Don't Agree f (%)	Agree f (%)	Strongly Agree f (%)
Should hyperthermia be lowered immediately	0	2 (2.5)	33 (41.3)	45 (56.3)
Hyperthermia will continue to increase if not reduced	0	6 (7.5)	49 (61.3)	25 (31.3)
Temperature measurement using a thermometer	0	45 (56.3)	18 (22.5)	17 (21.3)
Use of fever-reducing drugs	0	0	52 (65)	28 (35)
When to take to the doctor	2 (2.5)	22 (27.5)	35 (43.8)	21 (26.3)
Efforts to reduce hyperthermia	0	2 (2.5)	56 (70)	22 (27.5)
When to take to the doctor	0	17 (21.3)	28 (35)	35 (43.8)
	4 (5)	24 (30)	43 (53.8)	9 (11.3)
	1 (1.3)	7 (8.8)	57 (71.3)	15 (18.8)
Efforts to reduce hyperthermia	0	8 (10)	56 (70)	16 (20)
	0	0	33 (41.3)	47 (58.8)
	8 (10)	16 (20)	32 (40)	24 (30)
	24 (30)	29 (36.3)	20 (25)	7 (8.8)
Compress	0	0	46 (57.5)	34 (42.5)
	1 (1.3)	21 (26.3)	46 (57.5)	12 (15)
	23 (28.8)	39 (48.8)	16 (20)	2 (2.5)

Based on the data in table 5 above, explains the results of the answers for each statement item per indicator of attitude. In the statement that hyperthermia is a dangerous condition and must be immediately reduced, the results of the answers that have been filled in by respondents are 45 (56.3%) respondents answered strongly agree that hyperthermia should be immediately reduced. In statement number 2, as many as 49 (61.3%) respondents answered agree that Hyperthermia will continue to increase if it is not immediately reduced. More than half of the respondents do not use a thermometer to measure body temperature. All respondents read the label of fever-reducing drugs before using them. There are several statements on indicators of when to take to the doctor, as many as 35 (43.8%) respondents immediately take their child to the doctor if the child is fussy, pale, and has difficulty eating even though the child's fever is still mild, a total of 35 (43.8%) respondents when children were given medicine but there was no improvement in their condition and 43 (53.8%) when the fever rose and fell for more than 3 days.

In the statement of indicators of efforts to reduce the temperature of hyperthermia, almost all respondents rested their children when their children had hyperthermia, for example by limiting their activities as an effort to reduce the temperature of hyperthermia, as many as 57 (71.3%) respondents gave a lot of drinking to hyperthermic children, and 56 (70 %) respondents moved to a cool place and changed into thin clothes, and all respondents gave compresses to children to lower the child's body temperature. On the indicator of the compress question, more than half of the

respondents gave compresses using warm water, while as many as 36.3% of respondents gave compresses using cold water. In the statement on how to give a compress, all respondents put the compress on the child's forehead, 46 (57.5%) respondents also put the compress on the armpit, and almost all respondents did not put it on the groin.

DISCUSSION

Respondents' Characteristics

Based on the research that the researcher has done, the results show that the largest number of respondents are in the early adult category, namely the age of 26-35 years, with a total of 43 respondents (53.8%). The results of this study align with research conducted by Field Harianti (2016) which shows that most of the respondents are early adults with an age range of 26-35 years with a percentage of 54%. According to the theory of Budiman & Ryanto (2013), a person's grasping power is influenced by age. So that the older you get, the more your grasping power and mindset of a person will develop toward information which then affects a person's knowledge and attitudes. However, in early adulthood, it is considered physiologically good in terms of being married and being a parent, and cognitively can improve thinking rationally because it is a reproductive period (Putri, 2018). In the opinion of researchers that increasing age will also increase the ability to receive information and one's mindset, especially in early adulthood when one already has good physiological and cognitive abilities.

The results showed that the largest number of respondents were parents with 2 children, with 43 respondents (53.8%). This is in line with research conducted by Alawiyah (2019) which showed that most of the respondents who participated in the study had 2 children with a percentage of 48.5%. The number of children a person has is related to the experience they have when caring for children (Widyastuti, 2016). According to the theory of Budiman & Ryanto (2013), explaining that experience is a source of knowledge that is obtained by recalling the knowledge gained when solving a problem that has been faced before. This experience will affect the management of a person by recalling his experience so that it can be carried out in the same situation or circumstances (Aulia, 2019). In the opinion of the researcher, the more the number of children will increase the experience of caring for children, thus affecting the management of parents in caring for children based on their experience.

The results of the study after data analysis showed that most parents who became respondents had 26 respondents with a high school education with a percentage of 32.5%, while the few respondents with a college education were 7 respondents with a percentage of 8.8%. This is in line with research conducted by Helena Widyastuti (2016) which showed that the majority of parents who participated were respondents in the study at the last high school education, namely 37 mothers with a percentage of 68.5%. According to the theory of Budiman & Ryanto (2013), explaining that a person's knowledge is closely related to his education because with high education he or will be able to gain a lot of knowledge. Higher education teaches a person to be able to think rationally and logically so that a person can solve problems by analyzing and seeing an issue from various sides (Pradono & Sulistyowati, 2014). In the opinion of the researcher that the higher the education, the easier and more information is obtained and is expected to increase knowledge and influence a person's perception to make decisions.

The results of the study after analyzing the data showed that most parents who were respondents were not working or housewives as many as 52 respondents with a percentage of 65%. The results of this study are also in line with research conducted by Haryani & Adimayanti (2016) which shows that most of the respondents do not work or work as housewives with a percentage of 43.4%. According to Harianti (2016), mothers who do not work have more time to take care of children, so they have more experience in taking care of children. According to the theory of Budiman & Ryanto (2013) explaining that a person's economic status can affect the availability of facilities to seek information and the work environment can also affect changes in knowledge and attitudes of a person related to the presence or absence of reciprocal responses as knowledge information. In the opinion of researchers, work affects a person's level of knowledge because the work environment is also supportive, such as someone who works in the health sector. But other factors cause a person to have good knowledge, namely experience.

The results of the study after analyzing the data showed that most respondents received information from health workers as many as 36 respondents with a percentage of 45%. There are only a few respondents who use information sources from the internet because not all of them have cellphones, so there are more health workers. Piaget's theory, also explains that a person will tend to form his knowledge from information whether it comes from friends, mass media, and family (Cahyaningrum & Siwi, 2018). In the opinion of researchers, the more available sources of information that can be accessed by the public, both from health workers and the internet, will make it easier for people to find good information.

Knowledge of Parents in Performing Hyperthermia First Aid in Preschool-Age Children

Based on the data analysis of respondents' general knowledge about hyperthermia, it was found that most respondents said that body temperature was said to be hyperthermic if there was an increase in body temperature quickly and suddenly $>38^{\circ}\text{C}$ with a percentage of 72.5%, where it has been stated that hyperthermia is a condition in the body that causes hyperthermia. experience a rapid increase in body temperature $>38^{\circ}\text{C}$ associated with the body's inability to dissipate heat or excessive heat production (Lusia, 2015; SDKI, 2017). In the opinion of the researcher, it can be concluded that most respondents already know the definition of hyperthermia, namely the body experiences excessive heat production quickly and suddenly $>38^{\circ}\text{C}$, so that they can answer questions correctly.

Based on the data on the body temperature indicator, almost half of the respondents did not know the normal body temperature of the child, and half of the respondents did not know the temperature that was said to be in an emergency. This is in line with previous research, conducted by Haryani (2016) which said that most respondents did not know what the normal body temperature was and considered the normal body temperature $> 38^{\circ}\text{C}$. According to the Potter & Perry theory, a child's normal body temperature is in the range of $35.5\text{-}37.5^{\circ}\text{C}$, and a dangerously high temperature is $>40^{\circ}\text{C}$. Meanwhile, according to theory, a child's normal body temperature is $36\text{-}37^{\circ}\text{C}$ and the temperature is said to be an emergency if the temperature is $> 40.6^{\circ}\text{C}$ (El-Radhi et al., 2019). From these results, it can be concluded that there are still many parents who are wrong and still do not know the normal range of the child's body temperature and what the emergency temperature is when it has been stated that the normal body temperature of the child is $35.5\text{-}37.5^{\circ}\text{C}$ and the emergency temperature is $>40^{\circ}\text{C}$.

On the indicator of the cause of hyperthermia, more than half of the respondents answered incorrectly about the cause of hyperthermia by saying that it was only caused by exposure to high environmental temperatures and excessive activity. This is in line with previous research conducted by Taribuka (2021) which showed that respondents' knowledge about the causes of hyperthermia was still lacking, namely, 31 respondents answered incorrectly. According to the theory, there are several causes of hyperthermia, including exposure to high environmental temperatures, excessive activity, the effects of drug use, and other diseases (infections). The most common causes of hyperthermia are exposure to high environmental temperatures and other infectious diseases (El-Radhi et al., 2019). In addition, if the body temperature increases $>41^{\circ}\text{C}$ the cause is not an infection but a disturbance or damage to thermoregulation (Darvey, 2005). From these results, it can be concluded that more than half of the respondents still do not know the causes of hyperthermia other than exposure to environmental temperature, where hyperthermia can be caused by other infectious diseases, excessive activity, disturbances or damage to thermoregulation, and the effects of drug use.

Regarding the respondents' knowledge about the characteristics of hyperthermia, most respondents did not know about the accompanying symptoms by only answering weak, pale, and dry mouth with a percentage of 52.5%. This is in line with previous research conducted by Taribuka (2021), which said that the majority of mothers around 40 respondents answered correctly regarding signs of hyperthermia symptoms, including fussiness and paleness. According to theory, there are several signs of hyperthermia symptoms, namely skin redness, weakness, paleness, dry mouth, and excessive sweating (tachycardia) (El-Radhi et al., 2019). In addition, the skin feels warm when palpated, and the respiratory rate (tachypnea) and heart rate are fast (tachycardia) (SDKI, 2017). As many as 78.8% of respondents did not know that the type of hyperthermia accompanied by a rapid and sudden increase in temperature $>41^{\circ}\text{C}$ was Heat Stroke. Heat stroke according to El-Radhi (2019) is a medical emergency, due to an increase in body temperature above 40.6°C which is characterized by dry skin and complications such as seizures caused by failure of thermoregulation due to exposure to high environmental temperatures and dehydration. From these results, it can be concluded that there are still many respondents who do not know the specific characteristics of hyperthermia, where signs of hyperthermia besides signs of dehydration include redness of the skin, excessive sweating, dry skin, respiratory rate (tachypnea), and rapid heart rate (tachycardia). and if the body temperature is above 40.6°C , it is called a heat stroke.

In the most accurate indicator of how to measure body temperature, as many as 61 (76.2%), respondents use a thermometer, but 19 (23.8%) respondents measure it by touching the forehead. In line with research conducted by Taribuka (2021) which showed that more than half of the respondents determined body temperature by using a thermometer and half did not use a thermometer because they did not have the device. Based on the theory, an accurate way of measuring body temperature is to use a thermometer by placing it in several parts of the body including the armpits, mouth, and rectum (El-Radhi et al., 2019; Potter et al., 2015). However, the safest and most accurate place for measurement is the armpit (Green et al., 2021). From these results, it can be concluded that most respondents already know and understand the most accurate way to measure body temperature, namely with a thermometer placed in the armpit as the safest place to measure temperature, but there are still respondents who measure by touching the forehead due to one of them from lack of information. and does not have its thermometer.

Based on the data on indicators of the use of fever-reducing drugs, 76.2% of respondents answered correctly that all fever-reducing drugs had side effects and 23.8% of respondents answered incorrectly and did not know. Then on the daily dose limit on the use of fever-reducing drugs, 78.8% answered correctly, and 21.2% answered that they did not know and were wrong. In line with previous research conducted by Taribuka (2021) which said that mothers had sufficient knowledge about the use of fever-reducing drugs, with almost half of the respondents answering correctly. Based on the theory, each febrifuge or antipyretic drug has its dosage, such as paracetamol 15 mg/kg BW/dose with a frequency of every 6 hours (the maximum daily dose is 90 mg/kg) and ibuprofen 10 mg/kg BW/dose with a frequency of every 6 hours. 6-8 hours (the maximum daily dose is 40 mg/kg) (Green et al., 2021). The use of drugs in high doses is not recommended because it can cause side effects such as the risk of kidney injury and seizures (Martinelli et al., 2021).

Parents use fever-reducing drugs in lowering their child's fever in addition to using chemical drugs such as paracetamol and ibuprofen, namely traditional medicines such as herbal medicine. However, the herbal medicine in question is made from a decoction of earthworms, and a stew of Beluntas leaves and turmeric. A study conducted by Haiva Zulfaizah (2019) showed that earthworm water extract had a significant effect on reducing typhoid fever in rats with evidence of decreased body temperature, increased feed consumption, and normal active movement. A study conducted by Nur Afiaty Mursalim (2017) showed that Beluntas leaf extract was effective as a larva of *Aedes Aegypti* in the presence of active compounds, namely saponins and tannins as well as essential oils. A study conducted by Hesti Mulyani (2016) explained that turmeric has antioxidant, anti-inflammatory, and anti-seizure properties.

Based on the theory, traditional medicine is a medicine that is taught from generation to generation by ancestral customs and traditionally processed from natural ingredients to minimize side effects. Beluntas leaves and turmeric contain flavonoids and alkaloids and have benefits as a febrifuge (Utami & Puspaningtyas, 2013). Traditional medicines have minimal side effects because they contain chemicals, most of which can be metabolized by the body (Hadi Kurniati & Nur Azizah, 2018). The use of traditional or herbal medicines can also cause negative side effects if they are used carelessly. So it is necessary to pay attention to how to use it, namely, the accuracy of the dose or dose, the period of use, how to use it to be drunk or applied, and choose the right ingredients (Syarif, Suryotomo, & Soeprapto, 2015). In the opinion of the researcher, from these results, it can be concluded that most of the respondents already know and understand the use of chemical and traditional fever-reducing drugs, among others, by reading what the basic ingredients are, instructions for use, dosage, and duration of use of the drug as well as the side effects of the drug listed on the drug labels before giving to children.

Based on data analysis on indicators of non-pharmacological efforts to reduce hyperthermia, half of the respondents answered correctly by saying giving warm compresses, resting the child, providing good airflow, and drinking lots. As many as 30% of respondents said they provide good and proper airflow by moving to a cool place, using a fan, and changing clothes with thin ones. More than half of the respondents said they gave their children additional fluids little by little but often. This result is also in line with research conducted by Taribuka (2021), which showed that as many as 65.9% of respondents answered correctly changing thin clothes to help lower body temperature and several 68.2% of respondents answered correctly the question of giving water or milk to reduce body temperature. It helps to keep the body hydrated to prevent dehydration.

This is supported by research conducted by Febri Chahnia (2020) which shows that an effective way to help reduce the temperature of hyperthermia is by giving warm compresses, giving milk and fruit juices, and recommending bed rest. In addition, it is also recommended to wear thin clothes and regulate the room temperature by using a fan (Prasetyo, 2017). According to research conducted by Helena Widyastuti (2016), as many as 48% of respondents said fanning with a fan helps cool the room and helps lower body temperature. Based on the theory, there are several first treatments for hyperthermia other than warm compresses, namely resting the child by limiting the child's activity because activity can increase the metabolic rate that contributes to heat production, provide good airflow by moving to a cool place or room and changing clothes with comfortable clothes. a thin layer that can facilitate evaporation and radiation to help lower body temperature and provide lots of additional fluids to help cool the body internally (Potter et al., 2015; Souza, Damiao, Buchhorn, & Rossato, 2021). Providing additional fluids such as drinking water or milk, given in small amounts but often to prevent dehydration (El-Radhi et al., 2019).

Most respondents said that they gave a good compress to children who have hyperthermia by compressing the forehead using a cloth soaked in warm water. However, 32.5% of respondents said they used cold water and ice to compress. These results are in line with research conducted by Taribuka (2021) which showed that half of the respondents gave compresses to reduce the temperature of hyperthermia with warm water. This is supported by research conducted by Anisa (2019) which explains that giving warm compresses after 3 days is effective for reducing the normal temperature of children with hyperthermia, from the first day of treatment, body temperature is 39.3 °C to 37 °C on the third day. Mulyani & Lestari (2020) showed that an effective compress to reduce body temperature was using

warm water, and there were also 2 techniques, namely warm compresses and water-tepid sponges. Based on the theory, warm compresses are effective in helping to lower body temperature by an evaporation process that lowers the heat temperature little by little but cannot easily increase again (Souza et al., 2021). In the opinion of the researcher, from these results, it can be concluded that most respondents still do not know about non-pharmacological efforts to reduce hyperthermia which is correct and appropriate because there are still respondents who use compresses with cold water and ice cubes, and do not change clothes with thin ones, and still do not understand how to give additional fluids correctly. According to the researchers, non-pharmacological efforts that parents can do include giving warm compresses (water tepid sponge), fanning children, giving them water to drink, and wearing thin clothes that easily absorb sweat because research has proven effective in reducing temperature.

This result is in contrast to research conducted by Taribuka (2021) on knowledge of dealing with hyperthermia in toddlers, showing that more than half of the respondents had sufficient knowledge in dealing with hyperthermia, namely 59.1%. This difference in results can be caused by several other factors, including education, experience, work, and the availability of information source facilities as well as the willingness and a supportive environment (Cahyaningrum & Siwi, 2018). According to Notoatmodjo (2012), explaining that knowledge is the result of an individual knowing from memory and understanding an object by using all the senses they have and can create new knowledge or form individual habits. In the opinion of the researcher, from these results, it can be concluded that the knowledge of parents about hyperthermia in the anchor coastal area is mostly still in the less category, and there are still more than half of the parents of children who have sufficient and good knowledge about hyperthermia help but are still not optimal. This is because there is still a lack of information resulting from several factors, including education, experience, and the respondent's environment so not all respondents' answers to questions can be answered correctly.

Parents' Attitudes in Performing Hyperthermia First Aid in Preschool-Age Children

Based on the analysis of research data that has been obtained regarding whether hyperthermia should be reduced immediately, more than half of the respondents answered strongly agreed with the question of whether hyperthermia should be reduced immediately. Most of the respondents answered agreed on the question item whether hyperthermia will continue to increase if it is not immediately reduced. Based on the theory, hyperthermia must be immediately reduced by getting the right treatment because it can cause the child's body to become dehydrated and if the temperature increases suddenly exceeding $>40^{\circ}\text{C}$ it will cause the child to have seizures (Kapti & Azizah, 2017; Lusia, 2015). If not treated immediately and the temperature increases to $41-44^{\circ}\text{C}$ will continue to hypernatremia (Jamil, Sukma, & Hamidah, 2017). From these results, it can be concluded that parents already understand that hyperthermia must be immediately reduced to reduce the risk of children experiencing dehydration and complications such as seizures by getting proper and timely identification and treatment.

Based on data on temperature measurement indicators using a thermometer, the attitude of respondents toward using a thermometer to measure body temperature still needs to be improved, namely, 56.3% of respondents do not use a thermometer to measure a child's body temperature. This is contrary to research conducted by Widyastuti (2016), which explains that as many as 79.6% of respondents use a thermometer to measure body temperature—according to previous research conducted by Febri Chahnia (2020), explaining that it is important to measure body temperature regularly because body temperature can fluctuate and it can be monitored whether there is a dangerous increase in temperature. Based on the theory, to ensure an accurate body temperature by using a thermometer and measuring some safe body parts, parents usually measure body temperature in the armpit because it is more accessible, comfortable, and accurate (Jamil et al., 2017; Potter et al., 2015). From these results, it can be concluded that parents are still not aware of using a thermometer as an accurate tool to measure body temperature periodically when sick to find out if the temperature is in a safe or dangerous range and the problem of economic factors is to buy a thermometer.

On the indicator of the use of fever-reducing drugs, all respondents read the labels of fever-reducing drugs before using them. This happens because, according to parents giving fever-reducing medication is the easiest way. In line with research conducted by Indira (2018), which shows that respondents' references in administering fever-reducing drugs are obtained by following the rules listed on the drug label and from doctor's recommendations. Based on the theory, several things must be considered in using fever-reducing drugs, one of which is reading the drug use label to see the right dose and the right time (Green et al., 2021). In the opinion of the researcher, from these results, it can be concluded that the attitude of parents toward the use of fever-reducing drugs is good, as seen by more than half of the respondents who read the drug labels listed on the packaging before using them to comply with the recommended use.

Regarding when the child should be taken to the doctor, more than half of the respondents took their child to the doctor when the child is fussy, pale, and has difficulty eating even though the child's fever is still in the mild category. The majority of respondents took their children to the doctor when they were given medicine, but there was no improvement in their condition, or the fever had not gone down for more than 3 days. This is in line with research conducted by Febri Chahnia (2020) that the patient's mother brought her child to the hospital with a fever and fluctuating

conditions. For 2 days, the heat had not improved with a temperature of 39.3oC and the skin was reddish and looked pale. Based on the theory, several criteria recommend that the child should be taken to the doctor, namely seeing the child's condition if the condition seems to be getting worse, fussy, there are signs of dehydration, vomiting, shortness of breath, fever that lasts more than 3 days and the temperature is more than 40oC. and if the fever does not go down after being given fever-reducing drugs (Green et al., 2021). In addition, the child's condition is recommended to be taken to a doctor; namely signs of dehydration and sepsis, and the condition does not improve for more than 3 days (Jamil et al., 2017). In the opinion of the researcher, from these results, it can be concluded that most parents already have the awareness to take their children to the doctor when experiencing hyperthermia while still seeing the child's condition, such as monitoring body temperature and how long the fever lasts and seeing the condition seems to improve or worsen with arising other symptoms.

This study had several question items regarding efforts to reduce hyperthermia. Almost all respondents rested their children when they had hyperthermia by limiting their activities, giving them lots of water, moving them to a cool place, changing their children's clothes to lighter ones, and applying compresses. According to research conducted by Febri Chahnia (2020) explaining that the purpose of resting children by limiting activity and recommending bed rest is to prevent complications and accelerate healing, and the patient's parents said they understood and would limit their child's activities. From these results, it can be concluded that most parents have rested their children by resting their children on bed rest and limiting activities, providing plenty of drinking, providing good airflow, and applying compresses to their children to reduce hyperthermia and prevent complications, which means that the average the attitude of parents to reduce hyperthermia is good.

On the question of giving compresses, more than half of the respondents gave warm compresses, and there were still those who gave cold compresses, with a total of 33.8% of respondents. However, the cold water in question is ice water, and there are also ice cubes. This happens because some parents still think that compressing using cold water will accelerate the lowering of the child's body temperature (Haryani & Adimayanti, 2016). Even though giving a compress using warm water with a temperature of 28-30 °C is more effective because it can stimulate peripheral vessel vasodilation, which then dissipates heat through the skin with the evaporation process so that the child's body temperature begins to drop to normal temperature (E. Mulyani & Lestari, 2020; Souza et al., 2021). Another effort in giving compresses made by parents is compressed using herbal medicinal plants, namely shallots. The results of research conducted by Cahyaningrum & Putri (2017), showed that most children aged 1-5 years, after compressing with shallots for 10 minutes, reached normal body temperature due to shallots, and the average difference in body temperature decrease was 0.742- 1.8oC.

Based on the theory, shallots contain phloroglucin, Methylin, cycloalkane, kaempferol, and essential oils that can lower the temperature. The content of essential oils in red onions is also useful for blood circulation. Garlic dressing causes vasodilation in the skin which enlarges pores and increases heat dissipation through sweat (by evaporation), decreasing body temperature under normal conditions (Hadi Kurniati & Nur Azizah, 2018). In the opinion of the researcher, from these results, it can be concluded that the compresses carried out by parents to reduce heat with warm water and shallots are correct. However, the practice in the community still uses cold water, and the practice is wrong because the temperature transfers quickly, it is not good.

All respondents gave a warm compress by placing it on the forehead, most of them put it on the armpit, and a quarter of the respondents put it on the child's groin. Giving compresses with the water-tepid sponge technique is proven more effective at lowering body temperature than warm compresses (E. Mulyani & Lestari, 2020). A water tepid sponge is a compressing technique that is the same as a warm compress, but the difference is that this technique compresses the head, armpits, and groin and wipes all parts of the body (Souza et al., 2021). Giving compresses to the armpits and thighs is effective in helping reduce heat because these areas contain large blood vessels and sweat glands so that they can expand the area for vasodilation which will accelerate heat transfer from the body to the skin which then evaporates to the outside (Chahnia et al., 2020). In the opinion of the researcher, from these results, it can be concluded that the use of compresses with the warm compress technique is more than the Water tepid sponge technique which is seen by most parents only compressing the forehead and armpits. But most parents do not compress the groin. This is because parents are still unfamiliar with the Water tepid sponge compress technique which also compresses the groin and wipes all parts of the body. So that the average attitude of parents regarding compresses is quite good.

Based on the results of research that has been carried out data analysis shows that of the 80 respondents, most of them have a sufficient attitude toward first aid for hyperthermia in children, namely 44 respondents (55%). The results of this study were because parents of children had sufficient attitudes in handling hyperthermia, which was obtained from personal experience and exposure to information from health workers. However, some parents still are wrong or inappropriate in treating hyperthermia in children, such as compressing using cold water and being reluctant to wear thin

clothes to their children. In line with research conducted by Aulia (2019), which shows that many mothers still have negative attitudes due to low educational factors, thus making it difficult to absorb information.

Based on the theory, a person's attitude can also be influenced by sources of information, the personal experiences of parents in how to care for children when sick, one of which is hyperthermia and is also strongly influenced by the surrounding environment (Budiman & Ryanto, 2013). In the researcher's opinion, it can be concluded that parents' attitude regarding first aid for hyperthermia in children in the anchor coastal area is in the sufficient category. This is because a person's attitude can be formed with the high knowledge to show a good and positive attitude. Good parental knowledge is based on experience, sources of information, and a good environment, so it can influence parents in determining a good attitude as well. This experience relates to the experience of caring for children and the number of children they have because more and more children will increase the experience of caring for children.

Efforts to increase the knowledge and attitudes of parents to have awareness in changing and improving their health status by communicating and providing information through various health promotion media, both print media and electronic media, such as videos and books. The selection of media in the process of delivering health promotion to respondents must be made as attractive as possible so that it is more easily understood by respondents, such as through video media, because it uses two senses in communication, thus supporting the selection of media to support the success of the learning process. According to previous research that has been done, video media has been proven to be effective in increasing knowledge and attitudes because videos can describe the actual situation, are dynamic are easy to impress. Explanations can be played repeatedly with visual demonstrations and made as attractive as possible, like animated cartoons that interest respondents in learning. Listening accelerates someone's understanding, which can immediately change their behavior (Aisyiah, Wowor, & Ahufruan, 2021).

CONCLUSION

This study shows that most of the parents' knowledge has less knowledge with 36 (45%) respondents and most of the parents' attitudes are categorized as having a good attitude with 44 (55%) respondents performing hyperthermia first aid on preschool children in the coastal area of the village. Anchor Village Anchor. In the efforts of first aid for hyperthermia in children, there are still local cultural practices that have not been explored in this study, so that they become input for previous researchers. Suggestions for further research can find and find out more and add descriptively about the exploration of local culture to overcome the problem of hyperthermia in children. Suggestions for health workers or nurses are expected to be able to provide education through various innovations and interesting alternative media so that they can attract the attention of parents to listen to health promotions that are delivered and taught.

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